

REMARKS

The above-noted amendments to the claims are respectfully submitted in response to the official action dated March 13, 2006. Applicant once again submits that all of the claims in this application clearly possess the requisite novelty, utility and unobviousness to warrant their immediate allowance, and such action is therefore respectfully solicited.

Applicant certainly understands the need for thorough and complete examination. On the other hand, applicant wishes to stress to the Examiner the additional need for expeditious and timely examination. In this application, on five separate occasions, five different prior art positions have been expressed by the Examiner. Thus, each time applicant overcomes a rejection which was based upon cited prior art, that rejection is withdrawn and additional prior art is cited. Applicant would urge the Examiner to conduct all necessary searching with respect to this application so that it does not become necessary to continuously conduct additional searching and cite additional prior art in each instance.

Be that as it may, applicant will demonstrate that the latest cited art is clearly no better than any other art which has previously been relied upon. Indeed, the newly cited art appears to be highly inferior even as compared to the art previously relied upon, and in any event the claims are clearly patentable over this art. Applicant nevertheless has attempted to more clearly and specifically define this patentable subject matter in order to encourage the Examiner to allow this application. It is therefore hoped at this point in the prosecution, if the applicant again successfully convinces the Examiner that the present claims are patentable over the latest cited art, that the Examiner will now proceed with the allowance of this application rather than conduct additional searching and

cite additional prior art therein. Otherwise, this process can become interminable.

Claims 14-19, 21, 22, and 28-32 have been rejected as being anticipated by Trimarchi, U.S. Patent No. 5,076,108. The Examiner contends that Trimarchi discloses in FIGS. 2, 6, and 7 apparatus for measuring a fluid property including a tube 18 with lateral access opening 16, a domed portion (curve in 18) including a sealing surface on outer wall 58, and sealingly disposed sensor 52 for direct contact with the fluid in the tube 18. With respect to the claims dependent on claim 14, Trimarchi is said to disclose the sealing surface 58 comprising a level surface and a domed portion comprising a bend in the entire tube, as well as a bulge on one side of the tube in FIG. 6. Trimarchi is also said to disclose sealing surface 58 comprising a wall of the tube in FIG. 6, as well as adhering means 24 for adhering the sensor 52 to the sealing surface 58. FIG. 6 of Trimarchi is also said to disclose a leveled-off planar portion providing a lateral access opening, as well as comprising a ground-off portion.

As for claim 28, in addition to the statements made regarding claim 14, the Examiner also contends that sensor 52 is in direct contact with the lateral access opening in direct contact with the fluid in the tube 18. With respect to the claims dependent on claim 28, Trimarchi is said to disclose sealing surface 58 comprising a cutaway portion 16 of the domed portion of the tube providing a substantially flat sealing surface on the outer wall in FIGS. 2 and 6, and that the sensor 52 does not extend within the tube in a manner significantly reducing the cross-sectional area of the tube in FIG. 6. These rejections are respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant will provide a detailed explanation of the patentable distinctions of the present claims over Trimarchi. However, it is believed to be clear beyond question that an allegation that Trimarchi somehow anticipates any of the claims in this application is simply unsupportable. Applicant, however, respectfully submits that the disclosure in Trimarchi in no way either anticipates or obviates the claimed subject matter hereof.

Turning to Trimarchi, it is first noted that the overall thrust of this patent relates to testing the internal pressure in a wind tunnel, and in particular insertion of a probe which can be moved within the wind tunnel after insertion. In order to achieve these purposes, Trimarchi discloses a sidewall 18 of a pressure vessel which includes an elongated opening 16. The embodiment shown in both FIGS. 3 and 6 of Trimarchi then includes a pair of resiliently deformable seals 12 and 14 which are intended to slidably engage a wedge 34 carrying a probe 36 which can extend into the pressure vessel for movement therein. Thus, the inflatable seals 12 and 14 are intended to prevent pressure equalization between the inside and outside of the pressure vessel. The embodiment in FIG. 6 relied upon by the Examiner includes a larger opening in the vessel and a mounting plate 58 surrounding that opening. The probe and wedge used in FIG. 6 and shown in FIG. 7 includes the carriage 44 with wedge 34 and upper and lower guide plates 46 and 48 between which the wedge 34 is positioned. The carriage includes a central bore 50 in which probe 52 is slidably disposed for entry into the pressure vessel.

Turning to the claims, there are a number of clear distinctions therebetween. Firstly, the claims are now specifically directed to measurement of the properties of a

liquid, which is not even suggested by Trimarchi. Indeed, it does not appear that the structure shown in Trimarchi would even be applicable to a liquid system. Secondly, the present claims require that the invention be carried out in a tube for the liquid, and not in a wind tunnel acting as a pressure vessel. But most significantly, the overall nature of the present invention, which is far simpler than any previous structure, requires the use of a sensor which is sealingly disposed on the sealing surface surrounding the access opening in the tube. Thus, the sensor itself both seals the access opening and directly contacts the liquid in the tube. On the other hand, Trimarchi, even if it were applied to liquids, would still not include a sensor which, in and of itself, seals an opening. Indeed, in Trimarchi the opening itself is not truly "sealed" at all. When the probe is not in place, the only way to seal the opening would be to inflate the deformable seals 12 and 14 to very high pressures in order to prevent pressure equalization from inside the pressure vessel. Whether this device could possibly be adapted to seal liquids without leakage is subject to considerable doubt. In any event, however, it is clear beyond question that the sensor 36 itself does not seal anything, and certainly not the opening as required by the present claims. In view of the nature of the claimed sensor and the manner in which it is required to be utilized in accordance with the present invention, it is possible to eliminate all of the complex structure disclosed in Trimarchi for obtaining a seal, even in the far different environment of that patent. This includes retainer 24, inflatable seals 12 and 14, and the overall nature of the carriage member 44 itself. Instead, applicant's invention employs a sensor for both sealing the opening as defined in the present claims and for directly

contacting the liquid therein. It is therefore clear beyond question that claim 14 patentably distinguishes over Trimarchi. As for claim 28, the above comments are at least equally applicable thereto. Once again, the sensor is required to be in direct contact with the lateral access opening for sealing the sealing surface as well as being in direct contact with the liquid in the tube. None of this is shown or suggested by Trimarchi, which therefore does not teach or obviate the present invention.

Claim 20 has been rejected as being unpatentable over Trimarchi as modified by Uramachi et al., U.S. Patent No. 6,240,775, under 35 U.S.C. § 103(a). After admitting that Trimarchi does not disclose a probe for temperature, pressure, flow, or conductivity sensing, Uramachi et al. is said to teach that it is known to use temperature and flow sensors, and that while it does not explicitly state why they are used, it is stated that they are appeared to be used to be able to measure the temperature and flow of a fluid flowing through a tube. It is also said to be obvious to modify Trimarchi with a temperature and/or flow sensor as taught by Uramachi et al. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

It is clear that all of applicant's above-noted comments with respect to the deficiencies of Trimarchi apply with at least equal force to claim 20. Indeed, the fact that Trimarchi is so specifically directed to a probe in a pressure vessel such as a wind tunnel, and does not even apply to a liquid system, makes it unclear precisely what type of probe is utilized in Trimarchi. Certainly, it is not the specific type of probes which are set forth in claim 20, as the Examiner appreciates. As for Uramachi et al., as previously pointed out

by applicant, this reference merely relates to a flow rate sensor to measure air intake flow in an internal combustion engine. As shown in FIG. 2 of Uramachi et al., a main flow passage 16 has a specified conversion structure for the purposes thereof. A support section 21 supports a pipe conduit 29 within the fluid passage 26 to form a coaxial relationship therewith. Furthermore, a flow rate detecting element 22 including flow rate detecting resistance 11 and fluid temperature compensating resistance 13 are formed on the surface of the ceramic substrate and fixed in support section 21. It is thus believed to be clear that there is no motivation or suggestion of any kind as to how and why these references could be combined. Uramachi et al. does not include a tube with a domed portion as required by the present claims, nor a sensor disposed on a sealing of the outer wall of the tube, etc. The only reason for combining these references is hindsight reconstruction, which is not permissible.

Claims 23-26 have been rejected as being unpatentable over Trimarchi as modified by Abrams, U.S. Patent No. 4,613,325 under 35 U.S.C. § 103(a). After admitting that Trimarchi fails to disclose the tube being either elastic, flexible, or rigid, and made out of glass, plastic, or metal, the Examiner refers to Abrams as teaching that it is known to use such products. The Examiner thus concludes that it would be obvious to modify Trimarchi with the tube being either elastic, flexible, or rigid, and made of glass, plastic, or metal as taught by Abrams. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant again reiterates all of his previous contentions with respect to the clear deficiencies of the Trimarchi reference. The Abrams patent is directed to flow rate

sensing devices for regulating the flow of liquids to patients. However, there is no sensing device even approaching that of the present invention in Abrams. The flow rate sensing device in Abrams includes a flow restriction member 66 in cooperation with the pressure transducer 60 shown therein. The mere fact that in column 17, lines 14-19, Abrams discusses tubing sections which can be made from various materials does not alter the deficiencies of Trimarchi and/or Trimarchi combined with Abrams. These references simply do not disclose the substance of the present invention either alone or in combination, even if their combination were proper, which it is not.

Claim 27 has been rejected as being unpatentable over Trimarchi as modified by Karlsson, U.S. Patent No. 5,741,284. After admitting that Trimarchi does not disclose use in a dialysis monitor, Karlsson is said to teach the use of a sensor in direct contact with a fluid in a dialysis monitor in column 1, lines 10-16, for analyzing liquids for microdialysis purposes. It is thus said to be obvious to modify Trimarchi by using it in a dialysis monitor. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant once again repeats all of his above-noted contentions with respect to the clear deficiencies of the Trimarchi reference. The mere fact that the Karlsson reference discusses sensors used in dialysis systems in itself is of no moment whatsoever in overcoming the deficiencies of Trimarchi. In any event, in this case the Examiner merely refers to column 1, lines 10-20 of Karlsson, which discuss microdialysis in which a probe is inserted *in vivo* into human tissue. This in no way suggests the present invention, or even the use of a sensor in an environment like that of the present invention, for

measuring properties of a liquid passing through a tube. Finally, there is once again no reason to make this combination of references in the first instance, and no motivation exists to do so in this case, except for pure hindsight reconstruction based on applicant's own disclosure.

It is therefore once again respectfully submitted that this application is in condition for allowance, and such action is respectfully solicited. However, if for any reason the Examiner still does not believe that such action can be taken, it is respectfully requested that she telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which she might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

By 

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